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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Peder Nafstadius

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02/26/2004

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EXAMINER

KAO, CHIH CHENG G

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/009,262	NAFSTADIUS, PEDER	
	Examiner	Art Unit	
	Chih-Cheng Glen Kao	2882	AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because reference "A" is missing in the bottom portion of Figures 1, 11, and 12. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities, which appear to be minor draft errors. In the following format (specific location of objection; suggestion for correction), the following objections may be obviated by correcting with their respective suggestions: (Page 11, line 22, "open space 24"; replacing "24" with - 29-) and (Page 19, lines 12-13, "ring portion 201"; replacing "201" with - 301-).

Appropriate correction is required.

Claim Objections

3. Claims 2, 4, 8, 9, and 17 are objected to because of the following informalities, which may be grammatical or lack of antecedent basis problems. In the following format (specific location of objection; suggestion for correction), the following objections may be obviated by correcting with their respective suggestions: (claim 2, line 2, "respect of"; replacing "of" with -to-), (claim 4, line 2, "claim 1,,"; deleting one of the commas), (claim 4, line 4, "centred"; replacing "centred" with - centered-), (claim 8, line 2, "said pairs"; replacing "said" with - the-), (claim 8, line 2, "support portion"; replacing "portion" with - portions-), (claim 9, line 3, "an circle"; replacing "an" with - a-), (claim 9, line 5, "situated in"; replacing "in" with -

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around- -), and (claim 17, line 3, "to one respective of said couch"; deleting "respective" and inserting - -respectively- - before "to one").

For purposes of examination, the claims have been treated as such. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charrier (US Patent 4741015) in view of Hinton et al. (US Patent 5485502).

5. With regards to claim 1, Charrier discloses a device comprising a gantry (Fig. 1), a radiation head (Fig. 1, #3) rotatable around an axis (Fig. 3, arrow), said radiation head directing radiation to a treatment volume (Fig. 1, patient), and wherein all movable parts are in all situations a distance from the rotation axis (Fig. 1, patient), characterized in that the gantry comprises an inner gantry rotatably (Fig. 1, #1) supported by an outer gantry part (Fig. 1, #23) at two support locations at opposite sides of the treatment volume (Fig. 1, #27).

However, Charrier does not specifically disclose moving a head a distance larger than a predetermined distance from a rotation axis.

Hinton et al. teaches moving a head a distance larger than a predetermined distance from a rotation axis (Abstract and Fig. 1).

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It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier with the predetermined distance of Hinton et al., since one would be motivated to incorporate this for preventing contact (Abstract) and damage as implied from Hinton et al.

6. With regards to claim 2, Charrier further discloses the gantry arranged substantially radially with respect to the treatment volume (Fig. 1, #1).

7. With regards to claim 3, Charrier further discloses the head continuously rotatable around the rotation axis (Fig. 3, arrow).

8. With regards to claim 5, Charrier further discloses a substantially circularly shaped portion around the rotation axis (Fig. 1, #1).

9. With regards to claim 6, Charrier further discloses support locations on opposite sides of a treatment volume in the direction of the rotation axis (Fig. 2, #27).

10. Claims 1-3, 5, 6, 16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zylka et al. (US Patent 6490477) in view of Hinton et al.

11. With regards to claim 1, Zylka et al. discloses an irradiation device (Fig. 1) comprising a gantry (Fig. 1, #1), a radiation head (Fig. 1, #2) coupled to the gantry and rotatable around a

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rotation axis (col. 8, lines 19-21) directing radiation to a treatment volume substantially on the rotation axis (Fig. 1, #10), and wherein all movable parts are in all situations situated at a distance (Fig. 1, #2 and middle of #1), characterized in that the gantry comprises an inner gantry part (Fig. 1, #1) and an outer gantry part (Fig. 1, #21). Zylka et al. further discloses the inner gantry part rotatably supported by the outer gantry part at support locations at opposite sides (Fig. 3, #99).

However, Zylka et al. does not seem to specifically disclose moving a head a distance larger than a predetermined distance from a rotation axis.

Hinton et al. teaches moving a head a distance larger than a predetermined distance from a rotation axis (Abstract and Fig. 1).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Zylka et al. with the predetermined distance of Hinton et al., since one would be motivated to incorporate this for preventing contact (Abstract) and damage as implied from Hinton et al.

12. With regards to claim 2, Zylka et al. further discloses the gantry arranged substantially radially with respect to the treatment volume (Fig. 1, #1 and 10).

13. With regards to claim 3, Zylka et al. further discloses the head continuously rotatable around the rotation axis (col. 8, lines 19-21).

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14. With regards to claim 5, Zylka et al. further discloses the inner gantry part having a substantially circularly shaped portion (Fig. 1, #1).
15. With regards to claim 6, Zylka et al. further discloses the support locations on opposite sides in the direction of the rotation axis (Fig. 3, support locations enabling #99).
16. With regards to claim 16, Zylka et al. further discloses a body supporting couch (Fig. 3, #7) comprising two support portions (Fig. 3, portion under #7).
17. With regards to claim 20, Zylka et al. further discloses the couch within a distance of said predetermined value from said rotation axis (Fig. 1, #7).
18. Claims 4, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charrier in view of Hinton et al. as applied to claim 1 above, and further in view of Swerdloff et al. (US Patent 5661773).
19. With regards to claim 4, Charrier in view of Hinton et al. suggests a device as recited above. Charrier further discloses the radiation head movable along at least one arc of a circle being non-parallel with the rotation around the rotation axis (Fig. 7).

However, Charrier does not seem to specifically disclose irradiation treatment.

Swerdloff et al. teaches irradiation treatment (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier in view of Hinton et al. with irradiation treatment of Swerdloff et al., since one would be motivated to incorporate this to provide therapy (Abstract) as shown by Swerdloff et al.

20. With regards to claims 12 and 13, Charrier in view of Hinton et al. suggests a device as recited above. Charrier further discloses support locations on opposite sides perpendicular to the direction of rotation axis for tilting and non-coplanar irradiation (Fig. 1, #27) and a rotation connection enabling tilting around a second tilting axis perpendicular to the first tilting (Fig. 9).

However, Charrier does not seem to specifically disclose irradiation treatment.

Swerdloff et al. teaches irradiation treatment (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier in view of Hinton et al. with irradiation treatment of Swerdloff et al., since one would be motivated to incorporate this to provide therapy (Abstract) as shown by Swerdloff et al.

21. Claims 7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Charrier in view of Hinton et al. as applied to claim 1 above, and further in view of Kelman (US Patent 4115695).

22. With regards to claim 7, Charrier in view of Hinton et al. suggests a device as recited above.

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However, Charrier does not disclose a first and second ring portion carried in a first and second support portion.

Kelman teaches a first (Fig. 2, #29) and second (Fig. 2, #54) ring portion carried in a first and second support portion (Fig. 3, #104 and 105).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier in view of Hinton et al. with the rings and supports of Kelman, since one would be motivated to incorporate these components as ways to support a radiation head in a gantry (Title and Figures) as shown by Kelman.

23. With regards to claim 9, Charrier further discloses a circle arc portion, whereby the center of curvature is situated around the treatment volume (Fig. 1, #1).

24. With regards to claims 10 and 11, Charrier in view of Hinton et al. and Kelman suggests a device as recited above.

However, Charrier does not disclose a linear beam portion supporting the head.

Kelman teaches a linear beam portion (Fig. 6, #37) supporting the head (Fig. 6, #39).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the suggested device of Charrier in view of Hinton et al. and Kelman with a linear beam portion, since one would be motivated to incorporate this to provide a means for supporting the head to the gantry (Fig. 6) as shown by Kelman.

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25. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charrier in view of Hinton et al. and Kelman as applied to claim 7 above, and further in view of Distler et al. (US Patent 4402085).

Charrier in view of Hinton et al. and Kelman suggests a device as recited above.

However, Charrier does not disclose sliding contacts.

Distler et al. teaches sliding contacts (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier in view of Hinton et al. and Kelman with sliding contacts of Distler et al., since one would be motivated to incorporate this to provide power to the radiation head (Abstract) as shown by Distler et al.

26. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charrier in view of Hinton et al. and Swerdloff et al. as applied to claim 12 above, and further in view of Distler et al.

Charrier in view of Hinton et al. and Swerdloff et al. suggests a device as recited above.

However, Charrier does not disclose sliding contacts.

Distler et al. teaches sliding contacts (Abstract).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier in view of Hinton et al. and Swerdloff et al. with sliding contacts of Distler et al., since one would be motivated to incorporate this to provide power to the radiation head (Abstract) as shown by Distler et al.

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27. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Charrier in view of Hinton et al. as applied to claim 1 above, and further in view of Tam (US Patent 5717732).

Charrier in view of Hinton et al. suggests a device as recited above.

However, Charrier does not seem to specifically disclose numerical control.

Tam teaches numerical control (col. 6, lines 33-34).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Charrier in view of Hinton et al. with numerical control of Tam, since one would be motivated to incorporate this to provide a means for controlling complex mechanical motion (col. 6, lines 31-40) as shown by Tam.

28. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zylka et al. in view of Hinton et al. as applied to claim 16 above, and further in view of Mansfield et al. (US Patent 5778047).

Zylka et al. in view of Hinton et al. suggests a device as recited above.

However, Zylka et al. does not disclose a couch with two rigid parts attached to support portions and interconnected by material with a low radiation cross section.

Mansfield et al. teaches a couch with two rigid parts (Fig. 5, ends of #10) interconnected by material with a low radiation cross-section (Abstract, last 5 lines).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Zylka et al. in view of Hinton et al. with the couch of Mansfield et al., since one would be motivated to have such a couch to allow radiation to directly hit the patient as shown by Mansfield et al. to prevent radiation degradation to the patient.

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It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Zylka et al in view of Hinton et al. and Mansfield et al. with rigid parts attached to support portions, since rearrangement of parts only involves routine skill in the art. One would be motivated to have such an arrangement to provide support to the couch when a patient is on it.

29. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zylka et al. in view of Hinton et al. and Mansfield et al. as applied to claim 17 above, and further in view of Ramsdell et al. (US Patent 5717735).

Zylka et al. in view of Hinton et al. and Mansfield et al. suggests a device as recited above. Zylka et al. further discloses a support portion independently movable (Fig. 3, support portion for #7 closer to #1).

However, Zylka et al. does not disclose support portions movable in two translational directions.

Ramsdell et al. teaches support portions movable in two translational directions (Fig. 2, "X", "Y", and "Z").

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Zylka et al. in view of Hinton et al. and Mansfield et al. with the support portions of Ramsdell et al., since one would be motivated to have such movable supports of a table in order to not have to move a heavy head to a position (col. 7, lines 28-30) by moving the supports instead to that position as implied from Ramsdell et al.

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Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

30. Claims 1-20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. 10/186,629 in view of Hinton et al.

Application No. 10/186,629 claims a device comprising a gantry, radiation head, inner gantry, and outer gantry rotating the inner gantry.

However, Application No. 10/186,629 does not disclose moving a head a distance larger than a predetermined distance from a rotation axis.

Hinton et al. teaches moving a head a distance larger than a predetermined distance from a rotation axis (Abstract and Fig. 1).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the device of Application No. 10/186,629 with the predetermined distance of Hinton et al., since one would be motivated to incorporate this for preventing contact (Abstract) and damage as implied from Hinton et al.

This is a provisional obviousness-type double patenting rejection.

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Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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